ABSTRACT OF THE DISCLOSURE

A counter for counting the number of round trips of transmission data segments is introduced into a transmitter in a communication system comprising a transmitter, a receiver, and a network for connecting the transmitter to the receiver. Data segment transmission processing means transmits a data segment after the addition of the counter value to the data segment. ACK transmission means adds the counter value, contained in the received data segment, to an ACK message, followed by the return of the ACK message. When the counter value added to the received ACK message is equal to the current counter value, ACK processing means increases the counter value by one to count the number of round trips. The data segment transmission processing means stores the relationship between the data segment and the added counter value at the point of data segment transmission, and, when the stored counter value is two or more smaller than the current counter value, retransmits the data segment. By virtue of the above construction, even when a retransmitted data segment has been lost, a deterioration in throughput between the transmitter and the receiver can be avoided.